

Chapter PSC 134

STANDARDS FOR GAS SERVICE

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PSC 134.01 General. (1) Chapter PSC 134 of the public service commission's departmental rules is part of the Wis. Adm. Code and constitutes a general order of the public service commission, the issuance of which is authorized by sections 227.014, 196.02, 196.06, 196.10, 196.12, 196.15, 196.16, 196.17, and 196.19, Wis. Stats.

(2) The rules making up chapter PSC 134 are designed to effectuate and implement sections 196.02, 196.03, 196.06, 196.10, 196.12, 196.15, 196.16, 196.17, 196.19, 196.21, 196.22, 196.60, 196.62 and parts of other sections of the Wisconsin statutes.

(3) The requirements of chapter PSC 134 shall be observed by all public utilities, both privately and publicly owned, engaged in the manufacture, mixing, purchasing, storage, transmission and/or distribution of gaseous fuel.

(4) The manner of enforcing the rules in chapter PSC 134 is prescribed in section 196.66, Wis. Stats., and such other means as provided in statutory sections administered by the public service commission.

(5) In case of emergency, where public interest requires immediate action without waiting for compliance with the specific terms of these rules, the rules shall not prevent immediate corrective action by the utility, which action, however, shall be subject to review by the public service commission.

(6) Periodic reports to the public service commission are required by sections PSC 134.14(6); PSC 134.17; PSC 134.18(3); PSC 134.19

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(3); PSC 134.25 (4) Individual reports are required by PSC 134.18 (4) and (5).

History: 1-2-56; r. and recr. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.014 History: 1-2-56; r. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.015 History: 1-2-56; r. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.02 Definitions. The following terms as used in this chapter mean:

(1) **APPLIANCE.** A gas appliance is any device which utilizes gas fuel to produce light, heat, or power.

(2) **COMPLAINT.** Complaint as used in this chapter (PSC 134) is a statement or question by anyone, whether a utility customer or not, involving a wrong, grievance, injury, dissatisfaction, illegal action or procedure, dangerous condition or action, or utility obligation.

(3) **DEMAND.** Gas demand means the amount of gas required per unit of time, usually expressed in cubic feet, Btu, or therms per unit of time.

(4) **DRY GAS.** Dry gas as applied to gas usage means a gas having a moisture and hydrocarbon dew point below any normal temperature to which the gas piping is exposed. As applied to determination of heating value or specific gravity it means the complete absence of moisture or water vapor.

(5) **GAS.** Gas as used in this chapter is any gas or mixture of gases suitable for domestic or industrial fuel and transmitted or distributed to the user through a piping system. The common types are natural gas, manufactured gas, and liquefied petroleum gas distributed as a vapor with or without admixture of air.

(6) **HEATING AND CALORIFIC VALUES.** (a) *British thermal unit (Btu).* A British thermal unit is the quantity of heat that must be added to one avoirdupois pound of pure water to raise its temperature from 58.5°F to 59.5°F under standard pressure.

(b) *Dry calorific value.* The dry calorific value of a gas (total or net) is the value of the total or the net calorific value of the gas divided by the volume of dry gas in a standard cubic foot. (Note: The amount of dry gas in a standard cubic foot is .9826 cu. ft.).

(c) *Net calorific value of a gas.* The net calorific value of a gas is the number of British thermal units evolved by the complete combustion, at constant pressure, of one standard cubic foot of gas with air, the temperature of the gas, air, and products of combustion being 60°F and all water formed by the combustion reaction remaining in the vapor state.

(Note: The net calorific value of a gas is its total calorific value minus the latent heat of evaporation at standard temperature of the water formed by the combustion reaction).

(d) *Therm.* Therm means 100,000 British thermal units.

(e) *Total calorific value.* Total calorific value of a gas is the number of British thermal units evolved by the complete combustion, at constant pressure, of one standard cubic foot of gas with air, the temperature of the gas, air, and products of combustion being 60°F

and all water formed by the combustion reaction condensed to the liquid state.

(7) **METER.** A meter is an instrument installed to measure the volume of gas delivered through it.

(8) **MUNICIPALITY.** A municipality is any town, city or village.

(9) **PRESSURE.** (a) *Pressure.* Pressure unless otherwise stated is expressed in pounds per square inch above atmospheric pressure, i.e. gauge pressure. (Abbreviation—psig).

(b) *Standard pressure.* See (11) (c) ^{below}.

(c) *Standard service pressure.* Standard service pressure is the gas pressure which a utility undertakes to maintain on the meters of all customers except the meters of customers utilizing high-pressure service.

(10) **PUBLIC UTILITY.** Public utility is defined in section 196.01, Wis. Stats., and chapter PSC 134 applies to those supplying public utility gas service.

(11) **STANDARDS.** (a) *Specific gravity of a gas.* The specific gravity of a dry gas is the ratio of the molecular weight of the dry gas or gas mixture to the molecular weight of dry air. This is the dry specific gravity.

(b) *Standard cubic foot of gas.* A standard cubic foot of gas is the quantity of any gas that at standard temperature and under standard pressure will fill a space of 1 cu. ft. when in equilibrium with liquid water.

(Note: According to Dalton's Law, this is equivalent to stating that the partial pressure of the gas is: $30 - 0.522 = 29.478$ inches of mercury column).

(c) *Standard pressure.* Standard pressure is the absolute pressure of pure mercury 30 inches in height at 32°F and under standard gravity (Gravity 32.174 ft. per sec.). (Equivalent to 14.735 lbs. per sq. in.).

(d) *Standard temperature.* Standard temperature is 60°F based on the international temperature scale.

(12) **UNMEASURED GAS.** Unmeasured gas is gas which has not been measured by a meter.

History: 1-2-56; r. and recr. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.03 Service. Every gas utility shall furnish reasonably adequate service and facilities at the rates filed with the commission and subject to these rules and the rules of the utility filed with this Commission which are applicable thereto and not otherwise. The utility shall be operated in such manner as to obviate so far as reasonably practicable, undesirable effects upon the operation of standard services, standard utilization equipment, equipment of the utility, and upon the service and facilities of other utilities and agencies.

History: 1-2-56; r. and recr. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.04 Schedules to be filed with commission. The schedules of rates and rules shall be filed with the commission by the utility and shall be classified, designated, arranged, and submitted so as to con-

form to the requirements of current tariff or rate schedule circulars and special instructions which have been and may from time to time be issued by the commission. Provisions of the schedules shall be definite and so stated as to minimize ambiguity or the possibility of misinterpretation, and shall include, together with such other information as may be deemed pertinent, the following:

(1) All rates for service with indication for each rate of the type of gas and the class of customers to which each rate applies. There shall also be shown any limitations on loads and type of equipment which may be connected, the prices per unit of service, and the number of units per billing period to which the prices apply, the period of billing, the minimum bill, method of measuring demands and consumptions, including method of calculating or estimating loads or minimums, and any special terms and conditions applicable. The discount for prompt payment or penalty for late payment, if any, and the period during which the net amount may be paid shall be specified.

(2) By municipalities, but without reference required to any particular part thereof, the type of gas supplied and the type of service (firm and/or interruptible).

(3) Forms of standard contracts required of customers for the various types of service available.

(4) If service to other utilities or municipalities for resale is furnished at a standard filed rate, either a copy of each contract or the standard contract form together with a summary of the provisions of each signed contract. The summary shall show the principal provisions of the contract and shall include the name and address of the customer, the points where gas is delivered, rate, term, minimums, load conditions, heating value of gas, pressures, and any special provisions such as rentals.

(5) Copies of special contracts for the purchase, sale, or interchange of gas.

(6) List of villages, cities, and unincorporated communities where urban rates are applicable, and towns in which service is furnished.

(7) Definitions of classes of customers.

(8) Extension rules for extending service to new customers indicating what portion of the extension or cost thereof will be furnished by the utility; and if the rule is based on cost, the items of cost included.

(9) Type of construction required of the customer if different from requirements in chapter PSC 135.

(10) Designation of such portion of the service facilities as the utility furnishes, owns, and maintains.

(11) Rules with which prospective customers must comply as a condition of receiving service, and the terms of contracts required.

(12) Rules governing the establishment of credit by customers for payment of service bills.

(13) Rules governing disconnecting and reconnecting service.

(14) Notice required from customer for having service discontinued.

(15) Rules covering temporary, emergency, auxiliary, and standby service.

(16) Rules covering the type of equipment which may or may not be connected.

(17) The list of service areas and the rates shall be filed in such form as to facilitate ready determination of the rates available in each municipality and in such unincorporated communities as have service at urban rates. If the utility has various rural rates, the areas where the same are available shall be indicated.

History: 1-2-56; r. and recr. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.05 Information available to customers. There shall be kept on file in every station and office of the utility where payments are received copies of the rate schedules applicable in the area. Copies of these rules and such rules of the utility as are applicable shall be kept on file in every general and local office of the utility. Reasonable notice shall be given customers as to where the foregoing information is available to them.

History: 1-2-56; r. and recr. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.06 Deposit, guarantee, and disconnect rules. (1) **DEPOSIT RULE.** (a) If the credit of an applicant for service has not been established satisfactorily to the utility, he may be required to deposit a sum not exceeding the estimated gross bills for service for any 2 consecutive billing periods selected by the utility. The amount to be deposited may be a minimum of \$5 for each class of service furnished. Deposits shall bear simple interest at the rate of 5% per annum payable from the date of the deposit to the date of refund or discontinuance of service whichever is earlier.

(b) In the case of domestic service, the deposit shall be refunded upon request of the customer after 12 consecutive months of prompt payment, and, without such request, shall be refunded voluntarily by the utility after 36 consecutive months of prompt payment. In no case, however, will a deposit be refunded if the customer's credit standing is not satisfactory to the utility.

(c) In the case of commercial or industrial service, the deposit may be refunded upon request of the customer after 36 consecutive months of prompt payment, if the customer's credit standing is satisfactory to the utility.

(d) If the rules of the utility permit a customer to pay the net rate after discount date 1 month in every 12 months, such payment shall be regarded as "prompt payment" in the application of the above rule.

(e) A new or additional deposit may be required upon reasonable written notice of the need for such a requirement in any case where a deposit has been refunded or is found to be inadequate to cover 2 months' bills as above provided for, or where a customer's credit standing is not satisfactory to the utility. The service of any customer who fails to comply with these requirements may be disconnected upon 5 days' written notice.

(2) **GUARANTEE RULE.** (a) The utility may accept, in lieu of a cash deposit, a contract signed by a guarantor satisfactory to the utility, whereby payment of a specified sum not exceeding the cash deposit requirement is guaranteed. The term of such contract shall be indeterminate, but shall automatically terminate when the customer gives

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notice to the utility of discontinuance of service at the location covered by the guarantee agreement or 6 months after discontinuance of service, or at the guarantor's request upon 30 days' written notice to the utility.

(b) Upon termination of a guarantee contract or whenever the utility deems same insufficient as to amount or surety, a cash deposit or a new or additional guarantee may be required upon reasonable written notice to the customer. The service of any customer who fails to comply with these requirements may be disconnected upon 5 days' written notice.

(c) The guarantor shall receive copies of all disconnect notices sent to the customer whose account he has guaranteed unless the guarantor waives such notice in writing.

(3) SCOPE OF DEPOSIT AND GUARANTEE RULES. (a) Where an applicant or customer is unable to furnish either the required cash deposit or a satisfactory guarantor, or where the customer's business is of a hazardous or temporary nature, the utility may at its option bill such applicant or customer on other than a monthly basis with a corresponding adjustment in the deposit or guarantee requirement and disconnect procedure.

(b) Subsections (1), (2), and (3) (a) are not applicable to deposits or guarantees made in connection with the financing of extensions or other equipment.

(4) DISCONNECT RULE. (a) Service may be disconnected if a customer's current bill for service as defined in the utility's filed rules is not paid within a reasonable period set forth in said rules.

(b) The utility may at its option continue service beyond the period provided under its filed disconnect rules under the following conditions: If the utility has a deposit or guarantee on the account, such deposit or guarantee shall be considered as applying against the bill which first becomes delinquent. If the utility has no deposit or guarantee on the account, or if the delinquent bill exceeds the deposit or guarantee, service may not be discontinued or refused for nonpayment of a bill which is delinquent for a period longer than that permitted under the filed disconnect rule.

(c) Subsection (4) (b) above, shall apply in all cases unless the customer is willing to enter into a special agreement with the company, a written memorandum of which shall be made by the utility, providing for a specified extension of time and/or an extension of a specified amount of credit, and providing further for the disconnection of such customer upon failure to comply with the terms of such extension agreement.

Note: Some utilities have rules or practices that are more liberal to customers in some particulars than the rules enumerated above. It is not the intention of the Commission to require the abandonment of these practices, except that we believe a standardization of interest on customers' prompt payment deposits will avoid confusion and misunderstanding. With this exception, a utility of the classes here involved may establish uniform, nondiscriminatory rules and practices more favorable to its customers than those herein established. The purpose herein is rather to set forth a reasonable basis for standardizing these rules.

(5) APPLICATION. All electric and/or gas utilities, whether privately or municipally owned or operated, shall file with the commission deposit, guarantee, and disconnect rules or procedure in accordance with

this section, except that an individual utility, upon proper application and a showing of good cause, may, upon written approval by the commission, adopt rules giving consideration to specific unusual circumstances.

History: 1-2-56: r. and recr. Register, February, 1959, No. 38, eff. 3-1-59; r. and recr. Register, August, 1962, No. 80, eff. 9-1-62.

PSC 134.07 History: 1-2-56; r. and recr. Register, February, 1959, No. 38, eff. 3-1-59; r. and recr. to be PSC 134.06, Register, August, 1962, No. 80, eff. 9-1-62.

PSC 134.08 History: 1-2-56: r. and recr. Register, February, 1959, No. 38, eff. 3-1-59; r. and recr. to be PSC 134.06, Register, August, 1962, No. 80, eff. 9-1-62.

PSC 134.09 Refusal of service.

(4) Service may be denied to any customer for failure to comply with applicable requirements of these rules, or of the utility's filed rules, or of municipal ordinances, or if a dangerous or unsafe condition exists on the customer's premises.

(5) The following shall not constitute sufficient cause for refusal of service to a present or prospective customer: (a) Delinquency in payment for service by a previous occupant of the premises to be served.

(b) Failure to pay for merchandise and jobbing charges billed by the utility.

(c) Failure to pay for a different type or class of public utility service.

(d) Failure to pay the bill of another customer as guarantor thereof.

(e) Failure to pay a charge because of an inaccurate meter. (See section PSC 134.14(5)).

(f) Failure to pay an estimated bill unless the customer upon request refuses to permit the reading of the meter during reasonable hours.

(g) Failure to pay a bill to correct previous underbilling due to misapplication of rates.

(h) Operation of substandard equipment unless the customer has first been notified and been afforded reasonable opportunity to correct the installation, provided, however, that where a dangerous condition exists on customer's premises, service may be disconnected.

(i) Failure to pay a bill for which service was disconnected, if customer arranges for payment of future bills.

(j) Failure to pay a utility service bill at another location.

History: 1-2-56; r. and recr. Register, February, 1959, No. 38, eff. 3-1-59; r. and recr. (1), (2), and (3), to be PSC 134.06, Register, August, 1962, No. 80, eff. 9-1-62.

PSC 134.10 Service on customer's premises. (1) All changes in the heating value standard, all changes in pressure and specific gravity greater than the allowable variation, and changes in the composition of the gas which would materially affect the operation of the customer's appliances must be accompanied by a general inspection and adjustment of all appliances that would be affected by the changes. The utility shall make such adjustments and such changes to all customers' appliances that are connected to an interior piping system at

the time of the change as may be necessary in order that the appliance may operate as efficiently and give as good service as was possible before the change. This should be done promptly and without cost or unnecessary inconvenience to the customer.

(2) If in connection with a service change specified in (1) above, a piece of properly operating utilization equipment cannot be adjusted so that it will operate satisfactorily and if it must be replaced in its entirety the utility shall share equitably in the cost of changing the equipment. The change in customer's equipment should be made with the greatest possible economy to the customer, and final settlement made at the time of the change. A satisfactory settlement would be payment by the utility to the customer of the remaining value of the customer's equipment and the cost of removing the old and installing in the same position substantially equal equipment which replaces it.

(3) Each utility shall adopt and file with this commission a policy for periodic inspection of customer's appliances. This period shall not be greater than 5 years. The filed rule need not include the inspection and adjustment of special industrial equipment, which should be checked by persons more familiar with the equipment. The filed rule shall provide that customers having such equipment are to be notified periodically.

History: 1-2-56; r. and rec. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.11 Meters and control equipment. (1) Where possible to do so, all gas quantities required to be reported to the commission shall be metered.

(2) All gas sold to customers shall be measured by commercially acceptable measuring devices owned and maintained by the utility. The maintenance of the accuracy of the meters shall be the responsibility of the utility.

(3) Every reasonable effort shall be made to measure at one meter location all gas quantities necessary for billing the customer.

(4) All gas customers of the same type, pressure, and/or volume classification shall have their gas metered with instruments having like characteristics and at the same pressure base, except that the commission may approve the use of instruments of different types if their use does not result in unreasonable discrimination.

(5) Any regulators or equipment used to provide service in accordance with commission or filed utility rules and rates shall be commercially acceptable devices owned and maintained by the utility.

History: 1-2-56; r. and rec. Register, February, 1959, No. 38, eff. 3-1-59.

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PSC 134.12 Meter readings and billing periods. Reading of all meters used for determining charges to customers shall be scheduled monthly, bimonthly, quarterly, or semi-annually. An effort shall be made to read meters on corresponding days of each meter-reading period. The meter-reading date may be advanced or postponed not more than 5 days without adjustment of the billing for the period. Bills for service shall be rendered within 40 days from the reading of the meter except as may be otherwise specifically authorized by the commission. The utility may permit the customer to supply the

meter readings on a form supplied by the utility, provided a utility representative reads the meter at least once each 6 months and when there is a change of customer.

History: 1-2-56; r. and recr. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.13 Billing. (1) Each bill, including the customer's receipt, shall show the present and last preceding meter readings, the date of the present reading, the number of units consumed, the class of service, the net and gross amount of the bill, the date after which the gross amount must be paid, the rate schedule under which the bill is computed, and heating value of the gas. Bills rendered at rates requiring the measurement of a number of different factors shall show all data necessary for the customer to check the computation of the bill. Minimum and estimated bills shall be distinctly marked as such. In lieu of including the rate schedule on the bill the utility may, whenever a rate change becomes effective and at least twice a year, attach to the bill a schedule of the rates at which the bill is computed.

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(2) (a) If the billing period is longer or shorter than allowed in section PSC 134.12, the bill shall be prorated on a daily basis unless other provision is made in the utility's filed rules.

(b) If the utility reads the meters at the end of each billing period, the utility may, or if requested by the customer, shall leave meter reading forms when access to meters cannot be gained. If no form is left or the form is not returned in time for the billing operation, a minimum or estimated bill may be rendered. In cases of emergency, the utility may render minimum or estimated (average) bills without reading meters or supplying meter-reading forms to customers. Only in unusual cases or when approval is obtained from the customer shall more than 3 consecutive estimated bills be rendered.

(c) If the utility schedules the reading of meters less frequently than once each billing period, the utility unless otherwise requested by the customer, shall supply meter-reading forms for the periods when the meter is not scheduled to be read. If the customer fails to return the meter-reading form or has informed the utility he does not wish to supply a reading, a minimum or estimated bill may be rendered.

(d) If an estimated bill appears to be abnormal when a subsequent reading is obtained, the bill for the entire period shall be computed at a rate which contemplates the use of service during the entire period and the estimated bill shall be deducted. If there is reasonable evidence that the use occurred during only one billing period, the bill shall be so computed.

(3) (a) Credits due a customer because of meter inaccuracies, errors in billing, or misapplication of rates shall be shown separately and identified.

(b) The original billing rendered because of meter inaccuracy, or errors in billing, shall be separated from the regular bill and the charges explained in detail. Subsequent to the first billing the amount can be shown as a separate item on the regular bill.

(4) At the end of each billing period the utility shall read all prepayment meters, calculate the customer's bill at the regular net rates applicable, report the amount of money in the meter, and bill, refund, or credit the account with the difference between the bill at the regular rates and the amount collected, provided the same customer has received service during the entire billing period. Credits shall be liquidated at least once a year and upon termination of service.

(5) Each bill for service shall be computed at the proper filed rate and the rate used shall be the cheapest applicable rate based on 12 months' use of service. If the customer's use is such that it is difficult to be certain what rate should be applied until there has been 12 months' use, the billing shall be adjusted on the 12th bill.

(a) This subsection does not prohibit contracts having terms longer than 1 year but does require that the rates in such contracts be the cheapest applicable rates on file with the commission.

(b) Where a customer is eligible to take service under any one or more of two or more rates, the company shall advise the customer in the selection of the rate or rates which will result in the lowest cost of service, based on 12 months' service and on the information at hand.

(c) The selection of a rate or rates shall be reviewed every 12 months, whenever there is a change in rates, and whenever a request to do so is received from the customer.

(d) Section PSC 134.13 (5) (a) (b) and (c) applies to service as it is being supplied. If the customer could reduce his bills by installing equipment, combining or separating services, he should be notified but no change in rates shall be made until the customer makes the necessary changes. The utility is not required to advise the customer concerning the efficiency of his utilization equipment or process.

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(6) A utility may base its rates on either a volumetric basis or a "therm" basis but permission must be obtained from this commission to change any rate from one method to another. The unit of service on a volumetric basis shall be the cubic foot. If the volume billed is at a different pressure and/or temperature base than the registered volume, the rate shall specify the billing pressure and temperature. The "therm" billing unit shall be 100,000 British thermal units of total heating value. Where therm billing is used, the heating value shall be the average for the billing period or a filed lesser amount. Adjustment of volumes or therms billed shall not be made because of the delivery of standby or peak shaving gas without commission approval.

History: 1-2-56; r. and recr. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.14 Adjustment of bills. (1) Whenever a meter is found to have an error of more than 3% fast as determined in the manner specified in PSC 134.28 under any load condition, a recalculation of bills for service shall be made for the period of inaccuracy assuming an inaccuracy equal to the maximum fast percentage. The recalculation shall be made on the basis that the service meter should be 100% accurate.

(2) If the period of inaccuracy cannot be determined, it shall be assumed that the full amount of inaccuracy existed during the last half of the period since the previous test was made on the meter; however, the period of accuracy shall not exceed one-half the required test period.

(3) If the average gas bill of a customer does not exceed \$10 per month over the refund period the monthly consumption on which the refund is calculated may be averaged.

(4) If the recalculated bills indicate that more than \$1 is due an existing customer or \$2 is due a person no longer a customer of the utility, the full amount of the calculated difference between the amount paid and the recalculated amount shall be refunded to the customer. The refund to an existing customer may be in cash or as credit on a bill. If a refund is due a person no longer a customer of the utility, a notice shall be mailed to the last known address, and the utility shall upon request made within 3 months thereafter refund the amount due.

(5) Whenever a meter is found to be more than 3% slow on any test load, the utility may bill the customer for the amount the test indicates has been undercharged for the period of inaccuracy which period shall not exceed the last 6 months the meter was in service unless otherwise ordered by the commission after investigation. No back billing will be sanctioned if the customer has called to the company's attention his doubts as to the meter's accuracy and the company has failed within a reasonable time to check it.

(6) A classified record shall be kept of the number and amount of refunds and charges made because of inaccurate meters, misapplica-

tion of rates, and erroneous billing. A summary of the record for the previous calendar year shall be submitted to the commission by April 1 of each year.

History: 1-2-56; r. and recr. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.15 Employees authorized to enter customers' premises. The utility shall keep a record of employees authorized pursuant to section 196.171, Wis. Stats., to enter customers' premises.

History: Cr. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.16 Maps and diagrams. Each utility shall have maps, records, diagrams, and drawings showing the location of its property, in sufficient detail so that the adequacy of service to existing customers may be checked and facilities located.

History: Cr. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.17 Complaints. Each utility shall investigate and keep a record of complaints received by it from its customers in regard to safety, service, or rates, and the operation of its system. The record shall show the name and address of the complainant, the date and nature of the complaint, and its disposition and the date thereof. A summary of this record for the previous calendar year shall be sent to the commission by April 1 of each year.

History: Cr. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.18 Record of interruption of service. (1) Each utility shall keep a record of all interruptions to service affecting an entire distribution system of any urban area or an important division of a community. The record shall show the date and time of interruption, the cause, the approximate number of customers affected, and the date and time of restoring service.

(2) Each utility shall keep a record of all failures and notifications of difficulty with transmitted gas supply affecting each gate station. The record shall show the date and time of failure or notification, the date and time of resumption of normal supply, the operation of standby equipment including amount of gas produced, the number of customers whose service was interrupted and the maximum and minimum gas supply pressure during the period of difficulty.

(3) A summary of records required by section PSC 134.18(1) and (2) shall be sent to the public service commission by April 1 of each year.

(4) Each interruption of service which affects more than 100 customers shall be reported by mail, telephone, or telegraph to the commission within 48 hours following the discovery of the interruption.

(5) Any interruption of a principal gas supply shall be immediately reported to the commission by telephone or telegraph by the utility or utilities affected.

History: Cr. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.19 Meter records and reports. (1) Whenever a gas meter is tested, such record shall be kept until that meter is tested again. This record shall indicate the information that is necessary for identifying the meter, the reason for making the test, the reading of the meter before it was removed from service, the accuracy of measurement, and all the data that were taken at the time of the test. This

record must be sufficiently complete to permit convenient checking of the methods and calculations that have been employed.

(2) Another record shall be kept which indicates when the meter was purchased, its size, its identification, its various places of installation, with dates of installation and removal, the dates and results of all tests, and the dates and details of all repairs. The record shall be arranged in such a way that the record for any meter can be readily located.

(3) All utilities shall keep an "as found" high and light load test summary of all meters tested after being in service. This summary shall be made on a calendar year basis and forwarded to this commission by April 1 of the following year. This summary shall be divided according to the length of time since the last test, and meters found within each of the following per cent accuracy classifications:

Over 115; 110.1-115; 105.1-110; 103.1-105; 102.1-103; 101.1-102; 100.1-101; 100; 99-99.9; 98-98.9; 97-97.9; 95-96.9; 90-94.9; 85-89.9; under 85; passing gas does not register; does not pass gas; not tested; grand total average % error of fast meters; average % error of slow meters; total average error; number tested, number in service.

History: Cr. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.20 Preservation of records. The following records shall be preserved and kept available for inspection by the commission for the periods indicated. The list is not to be taken as comprehending all types of utility records.

Description of Record	Period to be Retained
(1) Maps showing the location and physical characteristics of existing plants -----	Currently
(2) Engineering records in connection with construction projects -----	Permanently
(3) Supply records:	
Station and system supply records ----	Permanently
All other records taken in the plant ---	6 years
(4) Operating records:	
Load dispatcher data -----	6 years
Interruption records -----	6 years
Meter test -----	See PSC 134.19 ✓
Meter history records -----	Life of meter
Annual meter accuracy summary -----	20 years
Heating value records -----	6 years
Pressure records -----	6 years
Specific gravity records -----	6 years
All other records of operation -----	6 years
(5) Equipment record:	
Must be placed in mortality study before destroying -----	Life of equipment
(6) Customers' records:	
Inspection of customers' equipment ----	10 years
Complaint record -----	6 years
Meter reading sheets or cards -----	* years
Billing record -----	* years
Customer deposits -----	6 years after refund

Description of Record	Period to be Retained
(7) Filed rates and rules -----	Permanently

Note: See Federal Power Commission Orders 54 and 156 for preservation of records, Public Service Commission's Classification of Accounts, and section 18.01, Wis. Stats.

* Where machine billing is used and meter readings recorded on tabulating cards, the register sheets may be considered the "meter reading sheets" and the "billing records." "Meter reading sheets" and "billing records" or the "register sheets" shall be kept 6 years or until they are no longer needed to adjust bills. This means that the records must be kept 6 years or from the date of one meter test to the next, whichever is longer.

History: Cr. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.21 Heating values and specific gravity. (1) Each utility which is furnishing gas service shall have on file with this commission for each municipality served the heating value, specific gravity, and composition of each type of gas regularly supplied and also for the gas which may be used for standby purposes and the range of values for peak shaving. The heating value filed shall be the total heating value with the indication whether it is on a wet or dry basis. (See definitions in section PSC 134.02). ✓

(2) All gases whether the regular gas supply, a mixture of gases or a substitute gas used for peak shaving purposes shall operate properly in normal gas utilization equipment. Where used for emergency or standby, the gas shall operate reasonably well in such equipment. (The customer requiring gas of a particular chemical composition shall make such arrangements as may be required to protect against damage by reason of change in composition).

(3) The monthly average heating value of the gases as delivered to the customers in any service area shall not be less than the heating value standard on file with this commission and the heating value at any time at constant specific gravity shall not be more than 5% above or 4% below this standard. At constant heating value, the specific gravity of the gas shall not vary more than 10% from the standards filed with the commission. If the heating value is varied by a greater amount than specified, the specific gravity shall be varied in such a way that the gas will operate satisfactorily in the customer's utilization equipment. Customers using processes that may be affected by a change in the chemical composition of the gas shall be notified of changes. Agreements with such customers shall specify the allowable variation in composition. (See definitions in section PSC 134.02).

(4) For required periodic heating value tests see section PSC 134.25. ✓
The specific gravity of the gas shall be determined at least once each month when there is no change in the type or sources of gas and when there is a change in the type of gas. Whenever emergency or peak shaving plants are run or when mixed gases are used, daily determinations of specific gravity shall be made.

History: Cr. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.22 Purity of gas. (1) In no case shall gas contain more than 30 grains of sulphur per 100 standard cubic feet, 5 grains of ammonia per 100 standard cubic feet, nor more than 0.1 grain of hydrogen sulphide per 100 standard cubic feet. (Exception. If the gas is not to be placed in pipe or bottle type holders the hydrogen sulphide content may be 0.3 grains per 100 standard cubic feet.)

(2) Utilities supplying gas containing coal or water gas shall make quantitative determinations of total sulphur at least once every 6 months and qualitative hydrogen sulphide tests at intervals of 1 hour to 2 weeks depending upon the probability of this impurity being found.

(3) Utilities supplying liquefied petroleum gas, or liquefied petroleum air mixtures, or natural gas shall test the gas periodically for impurities or periodically obtain data concerning impurities from sources they believe the commission can accept as reliable.

History: Cr. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.23 Pressure variation. (1) Every utility supplying gas shall file with the commission a standard service pressure by service areas. The service pressure shall be of such a value that the maximum pressure at any outlet as specified below shall not be greater than 12 inches of water column except for customers utilizing high-pressure service.

(2) For customers receiving standard service pressure, the gas pressure at the outlet of the utility's service meters shall meet the following requirements: (a) At no outlet in the service area shall it ever be greater than one and one-fourth of the standard service pressure nor greater than 12 inches of water nor ever be less than one-half of the standard service pressure nor less than 4 inches of water.

(b) At any single outlet it shall never be greater than twice the actual minimum at the same outlet.

(c) At any one outlet the normal variation of pressure shall not be greater than the following:

Minimum Pressure	Normal Variation Permissible
4-5 in. -----	3 in.
5-6 in. -----	3½ in.
6-8 in. -----	4 in.

(3) For customers utilizing gas at high pressure, a service pressure shall be agreed upon by the utility and the customer, and the maximum pressure variation shall not exceed 15% of the agreed pressure unless the commission shall authorize a greater variation.

(4) No utility shall furnish gas to any customer at pressures higher than its filed standard service pressure until it has filed with the commission acceptable service rules governing high-pressure service to customers desiring to utilize gas at pressures higher than standard service pressure. Such service rules shall provide that the utility will make high-pressure service available to its customers upon request whenever high pressure gas is available at the customer's premises or may be made available in accordance with the utility's filed extension rules, and when such high pressure is required for proper operation of the customer's present or proposed utilization equipment.

History: Cr. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.24 Pressure surveys. (1) Each utility shall be equipped with a sufficient number of recording pressure gauges to permit compliance with chapter PSC 135 and the following requirements: (a)

A record shall be kept of the pressure at some point on each system at all times.

(b) At least once each year the pressure variation shall be determined throughout each separate distribution system.

(2) All pressure charts which have been made shall be filed by the utility for at least 6 years and shall be sufficiently complete and so arranged that compliance with the individual requirements of section PSC 134.23 and system pressures can be determined easily.

History: Cr. Register, February, 1959, No. 38, eff. 3-1-59.

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PSC 134.25 Calorimeter equipment. (1) Unless specifically directed otherwise a calorimeter shall be maintained at each gas producing or mixing plant whether the plant is in continuous operation or used only for standby or peak shaving purposes. The calorimeter shall be used to check the operation of the plant and shall measure the heating value of the gas going to the gas lines.

(2) Unless specifically directed otherwise calorimeters shall be maintained in operation in locations where the heating value of the gas can be measured from each different supplier.

(3) Unless specifically directed otherwise a calorimeter shall be maintained and used to measure the heating value of the gas actually sold to customers in those cases where mixed gases are used.

(4) Tests of heating value of the gas shall be made daily whenever gas is supplied at the calorimeter location unless specifically directed otherwise by the commission. The original records of the tests shall be dated, labeled and kept on file for 6 years. A copy of the daily average heating value of gas sold to customers shall be sent the commission each calendar month.

(5) The calorimeter equipment shall be maintained so as to give results within + or - 1%. Recording calorimeters used to test or control the production, or mixing of gas, or measure the heating value of purchased gas shall be tested with a gas of known heating value at least 3 times a year. Recording calorimeters used only with standby or peak shaving production plants shall be tested with a gas of known heating value at least 2 times a year. Nonrecording calorimeter equipment such as the Junkers shall be tested with a gas of known heating value at least once a year, or tested against another calorimeter of known accuracy at least once a year.

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History: Cr. Register, February, 1959, No. 38, eff. 3-1-59.

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PSC 134.26 Meter testing and testing equipment. (1) Each public utility giving gas service is responsible for the accuracy of equipment used to measure service to its customers and all gas supplied by the utility shall be metered unless specific exemption is obtained from the public service commission. The utility shall own and maintain the equipment and facilities necessary for accurately testing the various types and sizes of meters used by the utility for the measurement of gas, shall make the tests required by these rules, shall maintain the measuring devices, and maintain their accuracy; unless arrangements are made to have the work done by others who have properly equipped laboratories, are approved by the commission and arrangements are also made to have equipment and procedures checked by the public service commission. A test by the manufacturer of a metering device is not acceptable unless witnessed by a utility representative.

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(2) Each public utility giving gas service shall own and maintain except as provided in section PSC 134.26(1) an industry approved meter prover of a capacity of not less than 5 cubic feet. The meter prover shall be complete with all accessories needed for accurate meter testing, shall be suitably located for meter testing, and shall be protected from drafts and excessive temperature changes. The equipment shall be maintained in good condition and correct adjustment and be capable of determining the accuracy of service meters to within one-half of one per cent.

(3) Each public utility giving gas service through rotary displacement meters, shall (a) own and maintain, except as provided in section PSC 134.26(1), a flow or volumetric meter of suitable capacity, together with necessary accessories, and it shall maintain such equipment in proper adjustment so that it will be capable of determining the accuracy of rotary type displacement meters to within one-half of one per cent; or (b) have a record of tests of each rotary type displacement meter made by an acceptable laboratory or manufacturer witnessed by a representative of the utility. The record should show that the test included a check of the recording device.

(4) Each public utility giving gas service through orifice type meters shall own and maintain, except as provided in PSC 134.26(1), instruments for checking the diameter of the orifice, a water column for testing the pressure differential recorder, and a mercury column or a dead weight gauge tester for testing the static pressure recorder so that the utility will be capable of determining the accuracy of these orifices and recorders to within one-half of one per cent.

(5) Instruments and equipment used for testing shall be checked at least once each 3 years against a standard.

History: Cr. Register, February, 1959, No. 33, eff. 3-1-59.

PSC 134.27 Meter accuracies. All meters shall be set as close to 100% accurate as possible. Diaphragm meters shall be considered correct for service if the results of the multiple tests called for agree within 1% and no test shows an error of more than 1% fast or slow. Rotary displacement meters shall be considered correct for service when tested at approximately 10% of rated flow with accuracy between 2% slow and 2% fast and at approximately 100% flow with accuracy between 1% slow and 1% fast. In orifice type meters, the deviations in the diameter of the orifice shall not exceed the following:

PRACTICAL TOLERANCES FOR ORIFICE DIAMETERS

Orifice Size	Tolerance Plus or Minus	Orifice Size	Tolerance Plus or Minus
.2500-----	.0003"	1.2500-----	.0014"
.3750-----	.0005"	1.5000-----	.0017"
.5000-----	.0006"	1.7500-----	.0020"
.6250-----	.0008"	2.0000 to 5.0000-----	.0025"
.7500-----	.0009"	over 5.0000-----	.0005" per inch of diameter
.8750-----	.0010"		
1.0000-----	.0012"		

In orifice type meters the sharpness of the orifice edge shall be maintained in such a condition that the upstream edge of the orifice shall not appreciably reflect a beam of light when viewed without magnification. No meter which is mechanically defective shall be placed in

this section, except that an individual utility, upon proper application and a showing of good cause, may, upon written approval by the commission, adopt rules giving consideration to specific unusual circumstances.

History: 1-2-56: r. and recr. Register, February, 1959, No. 38, eff. 3-1-59; r. and recr. Register, August, 1962, No. 80, eff. 9-1-62.

PSC 134.07 History: 1-2-56; r. and recr. Register, February, 1959, No. 38, eff. 3-1-59; r. and recr. to be PSC 134.06, Register, August, 1962, No. 80, eff. 9-1-62.

PSC 134.08 History: 1-2-56: r. and recr. Register, February, 1959, No. 38, eff. 3-1-59; r. and recr. to be PSC 134.06, Register, August, 1962, No. 80, eff. 9-1-62.

PSC 134.09 Refusal of service.

(4) Service may be denied to any customer for failure to comply with applicable requirements of these rules, or of the utility's filed rules, or of municipal ordinances, or if a dangerous or unsafe condition exists on the customer's premises.

(5) The following shall not constitute sufficient cause for refusal of service to a present or prospective customer: (a) Delinquency in payment for service by a previous occupant of the premises to be served.

(b) Failure to pay for merchandise and jobbing charges billed by the utility.

(c) Failure to pay for a different type or class of public utility service.

(d) Failure to pay the bill of another customer as guarantor thereof.

(e) Failure to pay a charge because of an inaccurate meter. (See section PSC 134.14(5)).

(f) Failure to pay an estimated bill unless the customer upon request refuses to permit the reading of the meter during reasonable hours.

(g) Failure to pay a bill to correct previous underbilling due to misapplication of rates.

(h) Operation of substandard equipment unless the customer has first been notified and been afforded reasonable opportunity to correct the installation, provided, however, that where a dangerous condition exists on customer's premises, service may be disconnected.

(i) Failure to pay a bill for which service was disconnected, if customer arranges for payment of future bills.

(j) Failure to pay a utility service bill at another location.

History: 1-2-56; r. and recr. Register, February, 1959, No. 38, eff. 3-1-59; r. and recr. (1), (2), and (3), to be PSC 134.06, Register, August, 1962, No. 80, eff. 9-1-62.

PSC 134.10 Service on customer's premises. (1) All changes in the heating value standard, all changes in pressure and specific gravity greater than the allowable variation, and changes in the composition of the gas which would materially affect the operation of the customer's appliances must be accompanied by a general inspection and adjustment of all appliances that would be affected by the changes. The utility shall make such adjustments and such changes to all customers' appliances that are connected to an interior piping system at

the time of the change as may be necessary in order that the appliance may operate as efficiently and give as good service as was possible before the change. This should be done promptly and without cost or unnecessary inconvenience to the customer.

(2) If in connection with a service change specified in (1) above, a piece of properly operating utilization equipment cannot be adjusted so that it will operate satisfactorily and if it must be replaced in its entirety the utility shall share equitably in the cost of changing the equipment. The change in customer's equipment should be made with the greatest possible economy to the customer, and final settlement made at the time of the change. A satisfactory settlement would be payment by the utility to the customer of the remaining value of the customer's equipment and the cost of removing the old and installing in the same position substantially equal equipment which replaces it.

(3) Each utility shall adopt and file with this commission a policy for periodic inspection of customer's appliances. This period shall not be greater than 5 years. The filed rule need not include the inspection and adjustment of special industrial equipment, which should be checked by persons more familiar with the equipment. The filed rule shall provide that customers having such equipment are to be notified periodically.

History: 1-2-56; r. and rec. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.11 Meters and control equipment. (1) Where possible to do so, all gas quantities required to be reported to the commission shall be metered.

(2) All gas sold to customers shall be measured by commercially acceptable measuring devices owned and maintained by the utility. The maintenance of the accuracy of the meters shall be the responsibility of the utility.

(3) Every reasonable effort shall be made to measure at one meter location all gas quantities necessary for billing the customer.

(4) All gas customers of the same type, pressure, and/or volume classification shall have their gas metered with instruments having like characteristics and at the same pressure base, except that the commission may approve the use of instruments of different types if their use does not result in unreasonable discrimination.

(5) Any regulators or equipment used to provide service in accordance with commission or filed utility rules and rates shall be commercially acceptable devices owned and maintained by the utility.

History: 1-2-56; r. and rec. Register, February, 1959, No. 38, eff. 3-1-59.

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PSC 134.12 Meter readings and billing periods. Reading of all meters used for determining charges to customers shall be scheduled monthly, bimonthly, quarterly, or semi-annually. An effort shall be made to read meters on corresponding days of each meter-reading period. The meter-reading date may be advanced or postponed not more than 5 days without adjustment of the billing for the period. Bills for service shall be rendered within 40 days from the reading of the meter except as may be otherwise specifically authorized by the commission. The utility may permit the customer to supply the

meter readings on a form supplied by the utility, provided a utility representative reads the meter at least once each 6 months and when there is a change of customer.

History: 1-2-56; r. and recr. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.13 Billing. (1) Each bill, including the customer's receipt, shall show the present and last preceding meter readings, the date of the present reading, the number of units consumed, the class of service, the net and gross amount of the bill, the date after which the gross amount must be paid, the rate schedule under which the bill is computed, and heating value of the gas. Bills rendered at rates requiring the measurement of a number of different factors shall show all data necessary for the customer to check the computation of the bill. Minimum and estimated bills shall be distinctly marked as such. In lieu of including the rate schedule on the bill the utility may, whenever a rate change becomes effective and at least twice a year, attach to the bill a schedule of the rates at which the bill is computed.

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(2) (a) If the billing period is longer or shorter than allowed in section PSC 134.12, the bill shall be prorated on a daily basis unless other provision is made in the utility's filed rules.

(b) If the utility reads the meters at the end of each billing period, the utility may, or if requested by the customer, shall leave meter reading forms when access to meters cannot be gained. If no form is left or the form is not returned in time for the billing operation, a minimum or estimated bill may be rendered. In cases of emergency, the utility may render minimum or estimated (average) bills without reading meters or supplying meter-reading forms to customers. Only in unusual cases or when approval is obtained from the customer shall more than 3 consecutive estimated bills be rendered.

(c) If the utility schedules the reading of meters less frequently than once each billing period, the utility unless otherwise requested by the customer, shall supply meter-reading forms for the periods when the meter is not scheduled to be read. If the customer fails to return the meter-reading form or has informed the utility he does not wish to supply a reading, a minimum or estimated bill may be rendered.

(d) If an estimated bill appears to be abnormal when a subsequent reading is obtained, the bill for the entire period shall be computed at a rate which contemplates the use of service during the entire period and the estimated bill shall be deducted. If there is reasonable evidence that the use occurred during only one billing period, the bill shall be so computed.

(3) (a) Credits due a customer because of meter inaccuracies, errors in billing, or misapplication of rates shall be shown separately and identified.

(b) The original billing rendered because of meter inaccuracy, or errors in billing, shall be separated from the regular bill and the charges explained in detail. Subsequent to the first billing the amount can be shown as a separate item on the regular bill.

(4) At the end of each billing period the utility shall read all prepayment meters, calculate the customer's bill at the regular net rates applicable, report the amount of money in the meter, and bill, refund, or credit the account with the difference between the bill at the regular rates and the amount collected, provided the same customer has received service during the entire billing period. Credits shall be liquidated at least once a year and upon termination of service.

(5) Each bill for service shall be computed at the proper filed rate and the rate used shall be the cheapest applicable rate based on 12 months' use of service. If the customer's use is such that it is difficult to be certain what rate should be applied until there has been 12 months' use, the billing shall be adjusted on the 12th bill.

(a) This subsection does not prohibit contracts having terms longer than 1 year but does require that the rates in such contracts be the cheapest applicable rates on file with the commission.

(b) Where a customer is eligible to take service under any one or more of two or more rates, the company shall advise the customer in the selection of the rate or rates which will result in the lowest cost of service, based on 12 months' service and on the information at hand.

(c) The selection of a rate or rates shall be reviewed every 12 months, whenever there is a change in rates, and whenever a request to do so is received from the customer.

(d) Section PSC 134.13 (5) (a) (b) and (c) applies to service as it is being supplied. If the customer could reduce his bills by installing equipment, combining or separating services, he should be notified but no change in rates shall be made until the customer makes the necessary changes. The utility is not required to advise the customer concerning the efficiency of his utilization equipment or process.

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(6) A utility may base its rates on either a volumetric basis or a "therm" basis but permission must be obtained from this commission to change any rate from one method to another. The unit of service on a volumetric basis shall be the cubic foot. If the volume billed is at a different pressure and/or temperature base than the registered volume, the rate shall specify the billing pressure and temperature. The "therm" billing unit shall be 100,000 British thermal units of total heating value. Where therm billing is used, the heating value shall be the average for the billing period or a filed lesser amount. Adjustment of volumes or therms billed shall not be made because of the delivery of standby or peak shaving gas without commission approval.

History: 1-2-56; r. and recr. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.14 Adjustment of bills. (1) Whenever a meter is found to have an error of more than 3% fast as determined in the manner specified in PSC 134.28 under any load condition, a recalculation of bills for service shall be made for the period of inaccuracy assuming an inaccuracy equal to the maximum fast percentage. The recalculation shall be made on the basis that the service meter should be 100% accurate.

(2) If the period of inaccuracy cannot be determined, it shall be assumed that the full amount of inaccuracy existed during the last half of the period since the previous test was made on the meter; however, the period of accuracy shall not exceed one-half the required test period.

(3) If the average gas bill of a customer does not exceed \$10 per month over the refund period the monthly consumption on which the refund is calculated may be averaged.

(4) If the recalculated bills indicate that more than \$1 is due an existing customer or \$2 is due a person no longer a customer of the utility, the full amount of the calculated difference between the amount paid and the recalculated amount shall be refunded to the customer. The refund to an existing customer may be in cash or as credit on a bill. If a refund is due a person no longer a customer of the utility, a notice shall be mailed to the last known address, and the utility shall upon request made within 3 months thereafter refund the amount due.

(5) Whenever a meter is found to be more than 3% slow on any test load, the utility may bill the customer for the amount the test indicates has been undercharged for the period of inaccuracy which period shall not exceed the last 6 months the meter was in service unless otherwise ordered by the commission after investigation. No back billing will be sanctioned if the customer has called to the company's attention his doubts as to the meter's accuracy and the company has failed within a reasonable time to check it.

(6) A classified record shall be kept of the number and amount of refunds and charges made because of inaccurate meters, misapplica-

tion of rates, and erroneous billing. A summary of the record for the previous calendar year shall be submitted to the commission by April 1 of each year.

History: 1-2-56; r. and recr. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.15 Employees authorized to enter customers' premises. The utility shall keep a record of employees authorized pursuant to section 196.171, Wis. Stats., to enter customers' premises.

History: Cr. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.16 Maps and diagrams. Each utility shall have maps, records, diagrams, and drawings showing the location of its property, in sufficient detail so that the adequacy of service to existing customers may be checked and facilities located.

History: Cr. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.17 Complaints. Each utility shall investigate and keep a record of complaints received by it from its customers in regard to safety, service, or rates, and the operation of its system. The record shall show the name and address of the complainant, the date and nature of the complaint, and its disposition and the date thereof. A summary of this record for the previous calendar year shall be sent to the commission by April 1 of each year.

History: Cr. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.18 Record of interruption of service. (1) Each utility shall keep a record of all interruptions to service affecting an entire distribution system of any urban area or an important division of a community. The record shall show the date and time of interruption, the cause, the approximate number of customers affected, and the date and time of restoring service.

(2) Each utility shall keep a record of all failures and notifications of difficulty with transmitted gas supply affecting each gate station. The record shall show the date and time of failure or notification, the date and time of resumption of normal supply, the operation of standby equipment including amount of gas produced, the number of customers whose service was interrupted and the maximum and minimum gas supply pressure during the period of difficulty.

(3) A summary of records required by section PSC 134.18(1) and (2) shall be sent to the public service commission by April 1 of each year.

(4) Each interruption of service which affects more than 100 customers shall be reported by mail, telephone, or telegraph to the commission within 48 hours following the discovery of the interruption.

(5) Any interruption of a principal gas supply shall be immediately reported to the commission by telephone or telegraph by the utility or utilities affected.

History: Cr. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.19 Meter records and reports. (1) Whenever a gas meter is tested, such record shall be kept until that meter is tested again. This record shall indicate the information that is necessary for identifying the meter, the reason for making the test, the reading of the meter before it was removed from service, the accuracy of measurement, and all the data that were taken at the time of the test. This

record must be sufficiently complete to permit convenient checking of the methods and calculations that have been employed.

(2) Another record shall be kept which indicates when the meter was purchased, its size, its identification, its various places of installation, with dates of installation and removal, the dates and results of all tests, and the dates and details of all repairs. The record shall be arranged in such a way that the record for any meter can be readily located.

(3) All utilities shall keep an "as found" high and light load test summary of all meters tested after being in service. This summary shall be made on a calendar year basis and forwarded to this commission by April 1 of the following year. This summary shall be divided according to the length of time since the last test, and meters found within each of the following per cent accuracy classifications:

Over 115; 110.1-115; 105.1-110; 103.1-105; 102.1-103; 101.1-102; 100.1-101; 100; 99-99.9; 98-98.9; 97-97.9; 95-96.9; 90-94.9; 85-89.9; under 85; passing gas does not register; does not pass gas; not tested; grand total average % error of fast meters; average % error of slow meters; total average error; number tested, number in service.

History: Cr. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.20 Preservation of records. The following records shall be preserved and kept available for inspection by the commission for the periods indicated. The list is not to be taken as comprehending all types of utility records.

Description of Record	Period to be Retained
(1) Maps showing the location and physical characteristics of existing plants -----	Currently
(2) Engineering records in connection with construction projects -----	Permanently
(3) Supply records:	
Station and system supply records ----	Permanently
All other records taken in the plant ---	6 years
(4) Operating records:	
Load dispatcher data -----	6 years
Interruption records -----	6 years
Meter test -----	See PSC 134.19 ✓
Meter history records -----	Life of meter
Annual meter accuracy summary -----	20 years
Heating value records -----	6 years
Pressure records -----	6 years
Specific gravity records -----	6 years
All other records of operation -----	6 years
(5) Equipment record:	
Must be placed in mortality study before destroying -----	Life of equipment
(6) Customers' records:	
Inspection of customers' equipment ----	10 years
Complaint record -----	6 years
Meter reading sheets or cards -----	* years
Billing record -----	* years
Customer deposits -----	6 years after refund

Description of Record	Period to be Retained
(7) Filed rates and rules -----	Permanently

Note: See Federal Power Commission Orders 54 and 156 for preservation of records, Public Service Commission's Classification of Accounts, and section 18.01, Wis. Stats.

* Where machine billing is used and meter readings recorded on tabulating cards, the register sheets may be considered the "meter reading sheets" and the "billing records." "Meter reading sheets" and "billing records" or the "register sheets" shall be kept 6 years or until they are no longer needed to adjust bills. This means that the records must be kept 6 years or from the date of one meter test to the next, whichever is longer.

History: Cr. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.21 Heating values and specific gravity. (1) Each utility which is furnishing gas service shall have on file with this commission for each municipality served the heating value, specific gravity, and composition of each type of gas regularly supplied and also for the gas which may be used for standby purposes and the range of values for peak shaving. The heating value filed shall be the total heating value with the indication whether it is on a wet or dry basis. (See definitions in section PSC 134.02). ✓

(2) All gases whether the regular gas supply, a mixture of gases or a substitute gas used for peak shaving purposes shall operate properly in normal gas utilization equipment. Where used for emergency or standby, the gas shall operate reasonably well in such equipment. (The customer requiring gas of a particular chemical composition shall make such arrangements as may be required to protect against damage by reason of change in composition).

(3) The monthly average heating value of the gases as delivered to the customers in any service area shall not be less than the heating value standard on file with this commission and the heating value at any time at constant specific gravity shall not be more than 5% above or 4% below this standard. At constant heating value, the specific gravity of the gas shall not vary more than 10% from the standards filed with the commission. If the heating value is varied by a greater amount than specified, the specific gravity shall be varied in such a way that the gas will operate satisfactorily in the customer's utilization equipment. Customers using processes that may be affected by a change in the chemical composition of the gas shall be notified of changes. Agreements with such customers shall specify the allowable variation in composition. (See definitions in section PSC 134.02).

(4) For required periodic heating value tests see section PSC 134.25. ✓
The specific gravity of the gas shall be determined at least once each month when there is no change in the type or sources of gas and when there is a change in the type of gas. Whenever emergency or peak shaving plants are run or when mixed gases are used, daily determinations of specific gravity shall be made.

History: Cr. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.22 Purity of gas. (1) In no case shall gas contain more than 30 grains of sulphur per 100 standard cubic feet, 5 grains of ammonia per 100 standard cubic feet, nor more than 0.1 grain of hydrogen sulphide per 100 standard cubic feet. (Exception. If the gas is not to be placed in pipe or bottle type holders the hydrogen sulphide content may be 0.3 grains per 100 standard cubic feet.)

(2) Utilities supplying gas containing coal or water gas shall make quantitative determinations of total sulphur at least once every 6 months and qualitative hydrogen sulphide tests at intervals of 1 hour to 2 weeks depending upon the probability of this impurity being found.

(3) Utilities supplying liquefied petroleum gas, or liquefied petroleum air mixtures, or natural gas shall test the gas periodically for impurities or periodically obtain data concerning impurities from sources they believe the commission can accept as reliable.

History: Cr. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.23 Pressure variation. (1) Every utility supplying gas shall file with the commission a standard service pressure by service areas. The service pressure shall be of such a value that the maximum pressure at any outlet as specified below shall not be greater than 12 inches of water column except for customers utilizing high-pressure service.

(2) For customers receiving standard service pressure, the gas pressure at the outlet of the utility's service meters shall meet the following requirements: (a) At no outlet in the service area shall it ever be greater than one and one-fourth of the standard service pressure nor greater than 12 inches of water nor ever be less than one-half of the standard service pressure nor less than 4 inches of water.

(b) At any single outlet it shall never be greater than twice the actual minimum at the same outlet.

(c) At any one outlet the normal variation of pressure shall not be greater than the following:

Minimum Pressure	Normal Variation Permissible
4-5 in. -----	3 in.
5-6 in. -----	3½ in.
6-8 in. -----	4 in.

(3) For customers utilizing gas at high pressure, a service pressure shall be agreed upon by the utility and the customer, and the maximum pressure variation shall not exceed 15% of the agreed pressure unless the commission shall authorize a greater variation.

(4) No utility shall furnish gas to any customer at pressures higher than its filed standard service pressure until it has filed with the commission acceptable service rules governing high-pressure service to customers desiring to utilize gas at pressures higher than standard service pressure. Such service rules shall provide that the utility will make high-pressure service available to its customers upon request whenever high pressure gas is available at the customer's premises or may be made available in accordance with the utility's filed extension rules, and when such high pressure is required for proper operation of the customer's present or proposed utilization equipment.

History: Cr. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.24 Pressure surveys. (1) Each utility shall be equipped with a sufficient number of recording pressure gauges to permit compliance with chapter PSC 135 and the following requirements: (a)

A record shall be kept of the pressure at some point on each system at all times.

(b) At least once each year the pressure variation shall be determined throughout each separate distribution system.

(2) All pressure charts which have been made shall be filed by the utility for at least 6 years and shall be sufficiently complete and so arranged that compliance with the individual requirements of section PSC 134.23 and system pressures can be determined easily.

History: Cr. Register, February, 1959, No. 38, eff. 3-1-59.

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PSC 134.25 Calorimeter equipment. (1) Unless specifically directed otherwise a calorimeter shall be maintained at each gas producing or mixing plant whether the plant is in continuous operation or used only for standby or peak shaving purposes. The calorimeter shall be used to check the operation of the plant and shall measure the heating value of the gas going to the gas lines.

(2) Unless specifically directed otherwise calorimeters shall be maintained in operation in locations where the heating value of the gas can be measured from each different supplier.

(3) Unless specifically directed otherwise a calorimeter shall be maintained and used to measure the heating value of the gas actually sold to customers in those cases where mixed gases are used.

(4) Tests of heating value of the gas shall be made daily whenever gas is supplied at the calorimeter location unless specifically directed otherwise by the commission. The original records of the tests shall be dated, labeled and kept on file for 6 years. A copy of the daily average heating value of gas sold to customers shall be sent the commission each calendar month.

(5) The calorimeter equipment shall be maintained so as to give results within + or - 1%. Recording calorimeters used to test or control the production, or mixing of gas, or measure the heating value of purchased gas shall be tested with a gas of known heating value at least 3 times a year. Recording calorimeters used only with standby or peak shaving production plants shall be tested with a gas of known heating value at least 2 times a year. Nonrecording calorimeter equipment such as the Junkers shall be tested with a gas of known heating value at least once a year, or tested against another calorimeter of known accuracy at least once a year.

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History: Cr. Register, February, 1959, No. 38, eff. 3-1-59.

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PSC 134.26 Meter testing and testing equipment. (1) Each public utility giving gas service is responsible for the accuracy of equipment used to measure service to its customers and all gas supplied by the utility shall be metered unless specific exemption is obtained from the public service commission. The utility shall own and maintain the equipment and facilities necessary for accurately testing the various types and sizes of meters used by the utility for the measurement of gas, shall make the tests required by these rules, shall maintain the measuring devices, and maintain their accuracy; unless arrangements are made to have the work done by others who have properly equipped laboratories, are approved by the commission and arrangements are also made to have equipment and procedures checked by the public service commission. A test by the manufacturer of a metering device is not acceptable unless witnessed by a utility representative.

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(2) Each public utility giving gas service shall own and maintain except as provided in section PSC 134.26(1) an industry approved meter prover of a capacity of not less than 5 cubic feet. The meter prover shall be complete with all accessories needed for accurate meter testing, shall be suitably located for meter testing, and shall be protected from drafts and excessive temperature changes. The equipment shall be maintained in good condition and correct adjustment and be capable of determining the accuracy of service meters to within one-half of one per cent.

(3) Each public utility giving gas service through rotary displacement meters, shall (a) own and maintain, except as provided in section PSC 134.26(1), a flow or volumetric meter of suitable capacity, together with necessary accessories, and it shall maintain such equipment in proper adjustment so that it will be capable of determining the accuracy of rotary type displacement meters to within one-half of one per cent; or (b) have a record of tests of each rotary type displacement meter made by an acceptable laboratory or manufacturer witnessed by a representative of the utility. The record should show that the test included a check of the recording device.

(4) Each public utility giving gas service through orifice type meters shall own and maintain, except as provided in PSC 134.26(1), instruments for checking the diameter of the orifice, a water column for testing the pressure differential recorder, and a mercury column or a dead weight gauge tester for testing the static pressure recorder so that the utility will be capable of determining the accuracy of these orifices and recorders to within one-half of one per cent.

(5) Instruments and equipment used for testing shall be checked at least once each 3 years against a standard.

History: Cr. Register, February, 1959, No. 33, eff. 3-1-59.

PSC 134.27 Meter accuracies. All meters shall be set as close to 100% accurate as possible. Diaphragm meters shall be considered correct for service if the results of the multiple tests called for agree within 1% and no test shows an error of more than 1% fast or slow. Rotary displacement meters shall be considered correct for service when tested at approximately 10% of rated flow with accuracy between 2% slow and 2% fast and at approximately 100% flow with accuracy between 1% slow and 1% fast. In orifice type meters, the deviations in the diameter of the orifice shall not exceed the following:

PRACTICAL TOLERANCES FOR ORIFICE DIAMETERS

Orifice Size	Tolerance Plus or Minus	Orifice Size	Tolerance Plus or Minus
.2500-----	.0003"	1.2500-----	.0014"
.3750-----	.0005"	1.5000-----	.0017"
.5000-----	.0006"	1.7500-----	.0020"
.6250-----	.0008"	2.0000 to 5.0000-----	.0025"
.7500-----	.0009"	over 5.0000-----	.0005" per inch of diameter
.8750-----	.0010"		
1.0000-----	.0012"		

In orifice type meters the sharpness of the orifice edge shall be maintained in such a condition that the upstream edge of the orifice shall not appreciably reflect a beam of light when viewed without magnification. No meter which is mechanically defective shall be placed in

service or allowed to remain in service after such defect has been discovered. The inlet and outlet of diaphragm type meters shall be capped when not connected in service.

History: Cr. Register, February, 1959, No. 38, eff. 3-1-59; am. intro. par. Register, November, 1962, No. 83, eff. 12-1-62.

PSC 134.28 Meter testing. (1) Each meter test of a diaphragm type meter with a capacity of 2,400 cubic feet per hour or less shall consist of one proving at a rate of flow one-fifth or less of the rated capacity of that meter and one proving at a rate of flow at or greater than the rated capacity of the meter. The capacity of the meter for test purposes shall be the capacity at one-half inch water column differential pressure.

(2) Each meter test of a diaphragm type meter having a capacity greater than 2,400 cubic feet per hour shall consist of one proving at a rate of flow one-fifth or less of the rated capacity of that meter and one proving at a rate of flow not less than 2,500 cubic feet per hour, but not less than twice the minimum test flow. The capacity of the meter for test purposes shall be the capacity at one-half inch water column differential pressure.

(3) Rotary meters shall be tested at two loads with the minimum load at 10% of rating by the use of a portable or volumetric meter or other approved proving devices, or be given a differential test. In the latter case an original test record shall be set up immediately after installation; future differential test results shall be recorded and compared with the original test record.

(4) A test of an orifice meter shall consist of tests of the recording gauges, and the removal, inspection and measurement of the orifice.

History: Cr. Register, February, 1959, No. 38, eff. 3-1-59; am. (3), Register, November, 1962, No. 83, eff. 12-1-62.

PSC 134.29 Installation test. No meter shall be used to meter gas consumption for billing purposes unless it was tested and found correct, as defined in section PSC 134.27 not longer than 6 months previous to its use. The first test on a meter or a retest after a major overhaul shall include a check of the registering device and linkages.

History: Cr. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.30 Periodic testing and maintenance. Each utility shall test its meters according to the following schedule except as provided in section PSC 134.26(1). Where pressure regulators, volume corrective devices, or other measuring devices are used on the service or used in conjunction with the meters, they shall be tested on the same schedule as the meters.

(1) All diaphragm meters that are measuring dry gas and have non-absorptive-type diaphragms or were re-diaphragmed since the introduction of dry gas shall be removed from service, tested, adjusted, repaired if necessary, and retested if reused every 96 months if the meter capacity is 2,400 cubic feet per hour or less at ½-inch water column and every 48 months if the capacity is greater than 2,400 cubic feet.

(2) All diaphragm meters that are measuring dry gas that do not have non-absorptive-type diaphragms and have not been re-diaphragmed since the introduction of dry gas shall be removed from service, tested, adjusted, re-diaphragmed and retested within 48

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service or allowed to remain in service after such defect has been discovered. The inlet and outlet of diaphragm type meters shall be capped when not connected in service.

History: Cr. Register, February, 1959, No. 38, eff. 3-1-59; am. intro. par. Register, November, 1962, No. 83, eff. 12-1-62.

PSC 134.28 Meter testing. (1) Each meter test of a diaphragm type meter with a capacity of 2,400 cubic feet per hour or less shall consist of one proving at a rate of flow one-fifth or less of the rated capacity of that meter and one proving at a rate of flow at or greater than the rated capacity of the meter. The capacity of the meter for test purposes shall be the capacity at one-half inch water column differential pressure.

(2) Each meter test of a diaphragm type meter having a capacity greater than 2,400 cubic feet per hour shall consist of one proving at a rate of flow one-fifth or less of the rated capacity of that meter and one proving at a rate of flow not less than 2,500 cubic feet per hour, but not less than twice the minimum test flow. The capacity of the meter for test purposes shall be the capacity at one-half inch water column differential pressure.

(3) Rotary meters shall be tested at two loads with the minimum load at 10% of rating by the use of a portable or volumetric meter or other approved proving devices, or be given a differential test. In the latter case an original test record shall be set up immediately after installation; future differential test results shall be recorded and compared with the original test record.

(4) A test of an orifice meter shall consist of tests of the recording gauges, and the removal, inspection and measurement of the orifice.

History: Cr. Register, February, 1959, No. 38, eff. 3-1-59; am. (3), Register, November, 1962, No. 83, eff. 12-1-62.

PSC 134.29 Installation test. No meter shall be used to meter gas consumption for billing purposes unless it was tested and found correct, as defined in section PSC 134.27 not longer than 6 months previous to its use. The first test on a meter or a retest after a major overhaul shall include a check of the registering device and linkages.

History: Cr. Register, February, 1959, No. 38, eff. 3-1-59.

PSC 134.30 Periodic testing and maintenance. Each utility shall test its meters according to the following schedule except as provided in section PSC 134.26(1). Where pressure regulators, volume corrective devices, or other measuring devices are used on the service or used in conjunction with the meters, they shall be tested on the same schedule as the meters.

(1) All diaphragm meters that are measuring dry gas and have non-absorptive-type diaphragms or were re-diaphragmed since the introduction of dry gas shall be removed from service, tested, adjusted, repaired if necessary, and retested if reused every 96 months if the meter capacity is 2,400 cubic feet per hour or less at ½-inch water column and every 48 months if the capacity is greater than 2,400 cubic feet.

(2) All diaphragm meters that are measuring dry gas that do not have non-absorptive-type diaphragms and have not been re-diaphragmed since the introduction of dry gas shall be removed from service, tested, adjusted, re-diaphragmed and retested within 48

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months of the introduction of dry gas if the meter capacity is 2,400 cubic feet per hour at $\frac{1}{2}$ -inch water column and within 24 months if the capacity is greater than 2,400 cubic feet.

(3) All diaphragm meters that measure other than dry gas shall be removed from service, tested, adjusted, repaired, if necessary, and retested if reused every 96 months if the meter capacity is 2,400 cubic feet per hour or less at $\frac{1}{2}$ -inch water column and every 48 months if the capacity is greater than 2,400 cubic feet.

(4) Rotary meters shall be given a differential test at least once every 24 months. When the test differential pressure differs from the original test record by more than one inch water column pressure, the meter shall be cleaned and/or repaired.

(5) Orifice meters shall have their differential and static recording gauges tested at least once each month, the diameter and condition of the orifice checked at least once a year. The specific gravity of the gas shall be checked as required in section PSC 134.21(4) and any temperature recording devices tested annually.

History: Cr. Register, February, 1959, No. 38, eff. 3-1-59; am. (4), Register, 1962, No. 83, eff. 12-1-62.

PSC 134.31 Request and referee tests. (1) Each utility furnishing gas service shall make a test of the accuracy of any gas meter upon request of the customer, provided the customer does not request such test more frequently than once in 6 months. A report giving the results of each request test shall be made to the customer and the complete, original record shall be kept on file in the office of the utility.

(2) Any gas meter may be tested by a commission inspector upon written application of the customer. For such test, a fee shall be forwarded to the commission by the customer with the application. The amount of this fee shall be refunded to the customer by the utility if the meter is found to be more than 3% fast. The amount of the fee that is to be remitted for such tests shall be \$2 for each consumption meter that has a rated capacity not exceeding 1,000 cubic feet per hour; for larger consumption meters, demand meters, etc., the test fee shall be the actual expense of the test.

History: Cr. Register, February, 1959, No. 38, eff. 3-1-59.